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## Development of a Cellular Therapeutic for Treatment of Epilepsy

### Grant Award Details

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Development of a Cellular Therapeutic for Treatment of Epilepsy

**Grant Type:** Quest - Discovery Stage Research Projects

**Grant Number:** DISC2-10525

**Investigator:**

<b>Name:</b>	Cory Nicholas
<b>Institution:</b>	Neurona Therapeutics
<b>Type:</b>	PI

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**Disease Focus:** Epilepsy, Neurological Disorders

**Award Value:** \$1,616,536

**Status:** Pre-Active

### Grant Application Details

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**Application Title:** Development of a Cellular Therapeutic for Treatment of Epilepsy

**Public Abstract:****Research Objective**

A stem cell-derived nerve cell therapy to minimize seizures in people with epilepsy

**Impact**

Many people with epilepsy have uncontrolled seizures that can be life threatening and adversely impact quality of life and independence. A cell therapy could help those not responsive to drugs.

**Major Proposed Activities**

- Transplant a nerve cell therapy made with clinically compatible methods into a mouse model of epilepsy to reduce seizures and understand how the cells function in the brain
- Transplant a nerve cell therapy made with clinically compatible methods into a rat model of epilepsy to reduce seizures and understand how the cells function in the brain
- Work to cryopreserve the nerve cells and see if they are the same in a dish before and after freezing
- Transplant the cryopreserved nerve cells into the mouse brain to see if they are the same before and after freezing
- Characterize different batches of the nerve cells to show they are the same and then compare with data from transplantation studies to see what cell characteristics are most important for activity
- Prepare for a meeting with the FDA to present a well-informed development plan based on the data obtained in Activities 1-5

**Statement of Benefit to California:**

Approximately 370,000 adults in California live with epilepsy. They have spontaneous seizures that are unpredictable, uncontrollable, and very disabling, impacting health and their degree of independence. One-third of people with epilepsy do not respond to anti-epileptic drugs and brain resection is their best treatment option. Better treatments for seizures could improve the quality of life for people living with the chronic disease and decrease the lost wages and productivity to California.

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